

**Listing of Claims:**

1. (Currently Amended) A gene expression cassette comprising one or more genes encoding enzyme UDP-D-glucuronate carboxylase (EC: 4.1.1.35), which is cloned into a transformation binary vector and introduced into bacterium *Agrobacterium tumefaciens*, wherein the cassette is for expression in *Eucalyptus* cells.

2-3. (Canceled).

4. (Currently Amended) The cassette according to claim 1, wherein the enzyme is involved in the biosynthesis of hemicelluloses, cellulose and/or uronic acids.

5. (Currently Amended) The cassette according to claim 4, wherein the hemicelluloses are xylans.

6. (Currently Amended) The cassette according to claim 4, wherein the uronic acid is glucuronic acid.

7. (Currently Amended) A method for overexpression or repression of the genes according to claim 1, comprising the step of introducing one or more gene cassettes into a *Eucalyptus* plant genome.

8. (Currently Amended) A method for genetic transformation in *Eucalyptus* plant cells comprising the step of introducing at least one cassette according to any of claims 1, 4, 5 or 6 into the plant genome via *Agrobacterium tumefaciens*.

9-10. (Canceled).

11. (Currently Amended) The method of claim 8, further comprising the step of changing the metabolic pathway for the biosynthesis of hemicelluloses, cellulose and/or uronic acids.

12. (Currently Amended) The method of claim 8, wherein the *Eucalyptus* plant cells are from any part of the plant.

13. (Currently Amended) A method for obtaining a genetically modified *Eucalyptus* plant comprising the steps of :

- a) the genetic transformation of *Eucalyptus* plant cells according to claim 8;
- b) regeneration of the cells in step a;
- c) expression of the DNA introduced into the cells of step (b) in sufficient amount to substantially change the metabolic pathway for the biosynthesis of hemicelluloses and/or cellulose and/or uronic acids; and
- d) obtention of the *Eucalyptus* modified plant.

14. (Currently Amended) The method of claim 13, wherein the modified *Eucalyptus* plant is a cell, an organ, a tissue, a seed, the entire plant, or its derived plants.

15. (Currently Amended) A genetically modified *Eucalyptus* plant comprising one or more expression cassettes according to claim 1, 4, 5 or 6.

16. (Currently Amended) A genetically modified *Eucalyptus* plant originating from the method according to claim 13.

17-19. (Canceled).

20. (Currently Amended) The genetically modified plant according to claim 15, wherein the genetically modified plant is used for obtaining wood and/or cellulose.

21. (Currently Amended) Derived *Eucalyptus* plants originating from the genetically modified *Eucalyptus* plant according to claim 15, wherein said derived plant comprises the cassette.

22. (Currently Amended) A genetically modified seed comprising one or more expression cassettes according to any one of claims 1, 4, 5 or 6.

23. (Currently Amended) A genetically modified seed, wherein the seed is modified by introducing one or more cassettes according to any one of claims 1, 4, 5 or 6 into the genome.

24. (Currently Amended) A genetically modified seed obtained from the method of claim 13, wherein the seed presents a change in the biosynthesis of cellulose, hemicelluloses and/or uronic acids.

25. (Currently Amended) The genetically modified seed of claim 22, wherein the genetically modified seed is used to generate genetically modified *Eucalyptus* plants.

26-33. (Canceled).

34. (Currently Amended) A method of modulating polypeptide level in *Eucalyptus* plants, wherein polypeptides are involved in the biosynthesis of hemicelluloses, cellulose and/or uronic acids, the method comprising the steps of:

- a) introducing one or more gene expression cassettes according to claim 1 into the *Eucalyptus* plant cell;
- b) regenerating the *Eucalyptus* plant cell;
- c) inducing the expression of the polypeptides during a sufficient period to modulate the level of biosynthesis of hemicelluloses, cellulose and/or uronic acids in the *Eucalyptus* plants.

35. (New) The cassette according to claim 1, wherein the cassette is for expression in *Eucalyptus grandis* cells.

36. (New) A genetically modified seed comprising one or more expression cassettes according to claim 35.

37. (New) A genetically modified seed, wherein the seed is modified by introducing one or more cassettes according to claim 35, into the genome.

38. (New) A method for obtaining a genetically modified *Eucalyptus* plant comprising the steps of :

- a) the genetic transformation of *Eucalyptus* plant cells according to claims any one of claims 11 or 12;
- b) regeneration of the cells in step a;
- c) expression of the DNA introduced into the cells of step (b) in sufficient amount to substantially change the metabolic pathway for the biosynthesis of hemicelluloses and/or cellulose and/or uronic acids; and
- d) obtention of the *Eucalyptus* modified plant.

39. (New) The genetically modified *Eucalyptus* plant according to claim 16, wherein the genetically modified *Eucalyptus* plant is used for obtaining wood and/or cellulose.

40. (New) Derived *Eucalyptus* plants originating from the genetically modified *Eucalyptus* plant according to claim 16, wherein said derived plant comprises the cassette.